

WHAT IS CLAIMED IS:

1. A method for facilitating intra-domain mobility, said method comprising the steps of:

5 providing a first network that includes a first agent including location information about a mobile node;  
providing a second network that includes two or more subnetworks and a second agent; and  
registering the mobile node with the second agent such that the mobile  
10 node transitions from any of the subnetworks to another subnetwork without communicating to the first agent information about the transition and without communicating to the second agent information about a security association between the mobile node and the first agent.

15 2. The method of claim 1, wherein the first agent includes a globally accessible redirection agent.

3. The method of claim 1, wherein the step of registering the mobile node with the second agent comprises the steps of:

20 receiving, at the mobile node, a local care-of address (LCOA) and a global care-of address (GCOA); and  
registering the mobile node with the second agent, wherein the LCOA is used to forward a communication to the mobile node without determining a specific route to the mobile node.

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4. The method of claim 1, wherein the step of registering the mobile node with the second agent comprises the steps of:

registering the mobile node with a third agent associated with one of the subnetworks;

5 sending, by the third agent, a local care-of address (LCOA) and a global care-of address (GCOA) to the mobile node; and

registering the mobile node with the second agent, wherein the LCOA is used to forward a communication to the mobile node without determining a specific route to the mobile node.

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5. The method of claim 4, wherein the third agent includes a subnet agent.

6. The method of claim 4, wherein the third agent includes a dynamic host configuration protocol (DHCP) server.

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7. The method of claim 4, wherein the third agent includes a dynamic configuration and registration protocol (DRCP) server.

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8. The method of claim 4, wherein the GCOA includes an address of the second agent.

9. The method of claim 1, wherein the second agent operates at a network layer.

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10. The method of claim 3, further comprising providing by the mobile node the GCOA to the first agent.

11. The method of claim 1, further comprising the steps of:

receiving in the first network communication addressed to the mobile  
node;

5 intercepting the communication by the first agent;

forwarding the communication by the first agent to the second agent;

and

forwarding the communication by the second agent to the mobile node.

10 12. The method of claim 3, further comprising the steps of:

receiving in the first network communication addressed to the mobile  
node;

intercepting the communication by the first agent;

forwarding, at the first agent, the communication to the GCOA;

15 intercepting of the communication by the second agent; and

forwarding, at the second agent, the communication to the mobile node.

13. The method of claim 12, wherein the step of forwarding the communication to  
the mobile node comprises the steps of:

20 encapsulating the communication to include the LCOA of the mobile  
node; and

sending the encapsulated communication to the LCOA.

14. The method of claim 13, further comprising the steps of:

25 decapsulating the encapsulated communication by the third agent; and

forwarding the decapsulated communication to the mobile node.

15. The method of claim 1, wherein the step of providing a second network includes providing at least two second agents.

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16. The method of claim 15, wherein the step of registering the mobile node comprises the steps of:

providing a mobility server in the second network;

allocating dynamically by the mobility server one of the at least two

10 second agents; and

registering the mobile node with the allocated second agent.

17. A system for facilitating intra-domain mobility, said system comprising:

15 a first network that includes a first agent including location information about a mobile node; and

a second network that includes two or more subnetworks and a second agent, wherein the second agent is programmed to allow the mobile node to transition from any of the subnetworks to another subnetwork without communicating information to the first agent about the transition and without communicating to the second agent information about a security association between the mobile node and the first agent.

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18. The system of claim 17, wherein the second agent operates at a network layer.

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19. The system of claim 17, wherein the first network includes a home network.
20. The system of claim 17, wherein the second network includes a foreign network.

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21. The system of claim 17, wherein the second network includes a third agent associated with one of the subnetworks.

22. The system of claim 21, wherein the third agent includes a subnet agent.

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23. The system of claim 21, wherein the third agent includes a DHCP server.

24. The system of claim 21, wherein the third agent includes a DRCP server.